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Low-cost vibration chamber for landslide sensory and alarm system (Article)

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Abstract

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Many previous research works published in the open literature aimed at designing a system that could detect landslide in early stage before the landslide becomes catastrophic. This paper presents a work-in-progress landslide early warning system for Malaysian environment. The aim of this paper is to develop the most effecienctly reliable cost-effective system in which slight earth movements are monitored continuously. The challenge this work aims at is to work with a low budget system that produce efficient performance. Hence, the material used is of-the-shelf. Early design optimization result of the vibration sensor used is quite promising detecting the slightest faint tremors, which are amplified using the best vibration chamber available. It is shown that the choice of proper pipe length and diameter dimensions in combination to a gravel to exaggerate the produced higher sensitivity level of 5dB. Furthermore, both systematic and random vibration tests produced similar results. © 2018 Institute of Advanced Engineering and Science. All rights reserved.

Author keywords

Landslide alarm Low-cost Of-the-shelf Sensory Vibration chamber

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